

# **Cloud Application** **Development - Group 5**

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**Project name** : Chatbot deployment with IBM Watson

# **Chatbot deployment with IBM Watson**

## **Phase 2 : Innovation**



## **Introduction**

Chatbots are crucial in the modern digital environment for boosting customer engagement and operational effectiveness. A potent tool for creating and deploying intelligent chatbots is IBM Watson Assistant.

Let's start this journey using IBM Watson Assistant to change customer interactions, streamline procedures, and increase satisfaction. Let's use chatbots to improve consumer interaction, regardless of your industry—whether you work in e-commerce, healthcare, banking, or another field.

## **What is chatbot?**

A chatbot is a computer program that engages in text or voice-based conversations with users. It can range from simple rule-based systems to advanced AI-powered bots. Chatbots automate tasks like customer support, e-commerce assistance, information retrieval, and more. They're valuable for businesses, improving customer service, and streamlining operations. As technology advances, chatbots become even more sophisticated, offering natural and context-aware interactions.

## Natural language understanding (NLU)

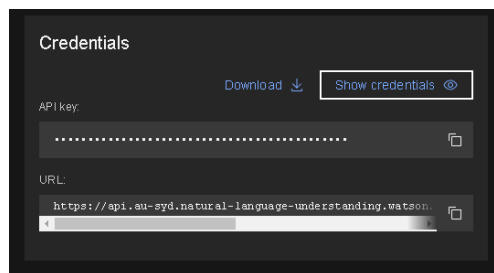
IBM Watson's Natural Language Understanding (NLU) is a cloud-based service that analyzes text to extract valuable insights. It recognizes entities, sentiments, emotions, concepts, and keywords in text, making it easier to understand and organize unstructured content. NLU is customizable and widely used in applications like content analysis, social media monitoring, and chatbot development, helping businesses gain deeper insights from text data for better decision-making and customer service.

Create an instance of the service:

1. Go to the **Natural Language Understanding page** in the IBM Cloud catalog.
2. Sign up for a free **IBM Cloud account** or log in.
3. **Click Create**.

Copy the credentials to authenticate to your service instance:

1. On the Manage page, click Show Credentials.
2. Copy the **API Key** and **URL** values.



## Open the command prompt

- Test whether curl is installed. Run the following command on the command line. If the output lists the curl version with SSL support, you are set for the tutorial.

```
curl --v
```

- If necessary, install a version with SSL enabled from [curl.haxx.se](http://curl.haxx.se). Add the location of the file to your PATH environment variables if you want to run curl from any command-line location.

## Step 1: Analyze target phrases and keywords

```
curl -X POST -u "apikey:UZApW5G9jLDd-  
WIdzrPKuSc_ydPyfj4oGlCB8otmUJRr"  
--header "Content-Type: application/json"  
--data "{\"text\":\"I love apples! I do not like oranges.\",\"features\":  
{\"sentiment\": {\"targets\": [\"apples\", \"oranges\", \"broccoli\"]},  
\"keywords\": {\"emotion\": true}}}"  
"https://api.au-syd.natural-language-  
understanding.watson.cloud.ibm.com/instances/18f5cb25-8f8e-4baf-  
b85a-9f61a8b267cf/v1/analyze?version=2019-07-12"
```

## Step 2: Analyze a webpage

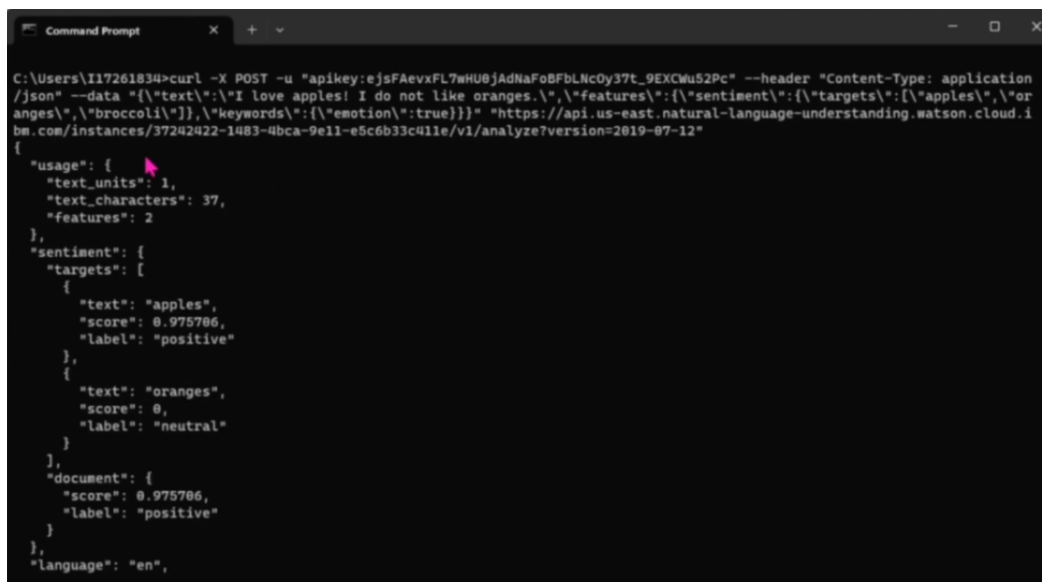
```
curl -X POST -u "apikey:UZApW5G9jLDd-  
WIdzrPKuSc_ydPyfj4oGlCB8otmUJRr"  
--header "Content-Type: application/json"
```

--data "{\"url\":\"http://newsroom.ibm.com/Guerbet-and-IBM-Watson-Health-Announce-Strategic-Partnership-for-Artificial-Intelligence-in-Medical-Imaging-Liver\",

\"features\": {\"sentiment\": { },\"categories\": { },\"concepts\": { },\"entities\": { },\"keywords\": { } } }

\"https://api.au-syd.natural-language-understanding.watson.cloud.ibm.com/instances/18f5cb25-8f8e-4baf-b85a-9f61a8b267cf/v1/analyze?version=2019-07-12\".

## Output:



```
C:\Users\117261834>curl -X POST -u "apikey:ej5FAevxFL7wHUBjAdNaFo8FbLncOy37t_9EXCWu52Pc" --header "Content-Type: application/json" --data "{\"text\":\"I love apples! I do not like oranges.\",\"features\":{\"sentiment\":{\"targets\":{\"apples\",\"oranges\",\"broccoli\"}},\"keywords\":{\"emotion\":true}}}" "https://api.us-east.natural-language-understanding.watson.cloud.ibm.com/instances/37242422-1483-4bca-9e11-e5c6b33c411e/v1/analyze?version=2019-07-12"
{
  "usage": {
    "text_units": 1,
    "text_characters": 37,
    "features": 2
  },
  "sentiment": {
    "targets": [
      {
        "text": "apples",
        "score": 0.975706,
        "label": "positive"
      },
      {
        "text": "oranges",
        "score": 0,
        "label": "neutral"
      }
    ]
  },
  "document": {
    "score": 0.975706,
    "label": "positive"
  }
},
  "language": "en",
```

```

},
"language": "en",
"keywords": [
  {
    "text": "apples",
    "relevance": 0.74128,
    "emotion": {
      "sadness": 0.020855,
      "joy": 0.988253,
      "fear": 0.075412,
      "disgust": 0.016976,
      "anger": 0.016175
    },
    "count": 1
  },
  {
    "text": "oranges",
    "relevance": 0.74128,
    "emotion": {
      "sadness": 0.100796,
      "joy": 0.37857,
      "fear": 0.032404,
      "disgust": 0.022672,
      "anger": 0.016869
    },
    "count": 1
  }
]
}
}
C:\Users\I17261834>

```

```

C:\Users\I17261834>curl -X POST -u "apikey:ej5FAevxFL7wHU0jAdNaFo8FbLNcOy37t_9EXCWu52Pc" --header "Content-Type: application
/json" --data '{"url":"http://newsroom.ibm.com/Guerbet-and-IBM-Watson-Health-Announce-Strategic-Partnership-for-Artificial-Intelligence-in-Medical-Imaging-Liver","features":{"sentiment":{"categories":{"score":0.714509,"mixed":"1","label":"positive"},"document":{"score":0.714509,"mixed":"1","label":"positive"},"retrieved_url":"https://newsroom.ibm.com/Guerbet-and-IBM-Watson-Health-Announce-Strategic-Partnership-for-Artificial-Intelligence-in-Medical-Imaging-Liver","language":"en","keywords":[{"text":"Watson Health","relevance":0.716125,"count":3}],"text":"liver cancer diagnostics",
{
  "usage": {
    "text_units": 1,
    "text_characters": 4273,
    "features": 5
  },
  "sentiment": {
    "document": {
      "score": 0.714509,
      "mixed": "1",
      "label": "positive"
    }
  },
  "retrieved_url": "https://newsroom.ibm.com/Guerbet-and-IBM-Watson-Health-Announce-Strategic-Partnership-for-Artificial-Intelligence-in-Medical-Imaging-Liver",
  "language": "en",
  "keywords": [
    {
      "text": "Watson Health",
      "relevance": 0.716125,
      "count": 3
    },
    {
      "text": "liver cancer diagnostics",

```